Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 15 of the	)	
Commission's Rules With Regard	)	RM 8435
to the Operation of Spread	)	
Spectrum Transmitters With	)	
Directional Antennas	)	

COMMENTS
OF
METRICOM, INC.

Metricom, Inc. ("Metricom"), by its attorneys, pursuant to Section 1.405 of the Commission's rules, hereby submits these comments in support of the above-referenced Petition for Rule Making filed by Western Multiplex Corporation ("WMC"), which appeared on the Commission's Public Notice dated February 16, 1994, Report No. 2000 (Mimeo. No. 41771) (the "Petition"). In addition to supporting the Petition, Metricom urges the Commission to include Part 15 devices operating in the 902-928 MHz frequency band in this request for Rule Making to amend Section 15.247(b) of the rules to eliminate certain restrictions concerning directional antennas.

Metricom is a Silicon Valley-based manufacturer of Part 15 frequency hopping, spread spectrum, wireless data communications systems operating in the 902-928 MHz frequency band. Metricom's

systems provide an innovative mesh network architecture which offers the first license-free wireless solution to provide low cost, high speed, flexible, regional data communications for a wide variety of advanced, low cost, wireless communications applications that serve the public interest.[1/]

Metricom supports the Petition to amend Section 15.247(b) of the rules to eliminate the requirement that transmitter power for systems operating in the 2400-2483.5 MHz and 5725-5850 MHz bands be reduced by an amount in dB that the directional gain of the antenna exceeds 6 dBi. In addition to amending the directional antenna provisions for the 2.4 and 5.7 MHz bands, Metricom submits that the 902-928 MHz band should also be exempt from these requirements.

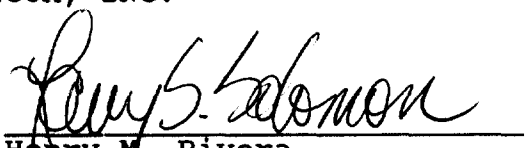
Metricom supports the arguments presented in the WMC Petition as to why it is in the public interest for the Commission to initiate the Rule Making requested. Metricom will not repeat those arguments herein. However, it must be noted that those arguments are just as applicable to the 902-928 MHz band as they are to the 2.4 and 5.7 MHz bands. Accordingly, Part 15 devices operating pursuant to Section 15.247 in the 902-928 MHz frequency band should be included in this Rule Making, and there is no reason to preclude those devices if the Commission implements the Rule Making requested.

[1/] For a description of some of the applications of the Metricom system, see Attachment 1.

WHEREFORE, Metricom, Inc. respectfully requests the Commission to initiate a Rule Making proceeding consistent with the views expressed in the WMC Petition and, in addition, to include Part 15 devices operating in the 902-928 MHz band within that Rule Making.

Respectfully submitted,

METRICOM, INC.

By: 

Henry M. Rivera
Larry S. Solomon
GINSBURG, FELDMAN AND BRESS
1250 Connecticut Avenue, N.W.
Washington, D.C. 20036
202-637-9000

ITS ATTORNEYS

Dated: March 18, 1994

ATTACHMENT 1

Metricom's Part 15 wireless data communications systems have been developed for use in many areas that are of significant importance to the public interest. When Part 15 rules are complied with, the opportunity to make use of the relatively large amount of spectrum in the 902-928 MHz band makes it possible to develop high-performance, large capacity, low-cost radio equipment that provides solutions to public and private organizations and to individuals.

Important examples of the benefits provided by Part 15 equipment can be illustrated by citing a number of present and anticipated uses of Metricom's wireless data communications networks. Each of these uses supports an area that is of vital interest to the public good. In each instance cited here, high performance, capacity and reliability in combination with low cost are network characteristics required by the applications. These characteristics are made possible by taking advantage of Part 15 rules permitting license-free network operation in the 902-928 MHz band.

Less expensive electricity, reduced pollution, fuel conservation. Metricom Part 15 wireless data communications networks are being installed by some of the leading electric utilities in the United States.

For example, a very large Part 15 wireless data communications network is being installed by Southern California Edison (SCE) across much of its very large service territory. When complete, SCE's network will consist of approximately 30,000 packet radios. The primary purpose of the Part 15 radio network is to provide the communications infrastructure for a program to manage and reduce the voltage delivered to SCE's customers through intelligent switching of capacitor banks located throughout SCE's electrical distribution system.

In operation, voltage data collected at customer locations is transmitted over the radio network to computers located at substations, which in turn transmit the necessary switching instructions back over the radio network. The resulting voltage reduction will reduce the amount of fuel required to generate electricity, reduce pollution, and reduce the cost of electricity to rate payers. The voltage reduction will also extend the life of customer equipment.

Other programs supported by SCE's Part 15 wireless data communications network include remote activation of electrical switches and outage detection, both of which will reduce the length of electrical outages.

Networks are being installed by 15 other electric utilities as well, each network having been justified on the basis of the benefits it offers to rate payers in terms of improved service, reduced costs, or energy

conservation.

Waste water. Metricom networks are being installed to support improved automation of valves and pumping stations. Far more economical and flexible than conventional radio communications systems, Metricom Part 15 radio networks are being installed by two major waste water districts and are being considered by a number of others. In each of these instances, improved communications will result in more effective management of the waste water system with the result that potential release of dirty water will be significantly reduced.

Gas wells. Recent federal regulations require much more frequent measurement and reporting of gas well output at the well itself. Metricom Part 15 radio networks are being evaluated now by a number of gas well companies and their suppliers. The networks will provide the robustness, topological flexibility, and low cost required for implementation in gas well fields.

Health Care. Metricom Part 15 radio networks will be used in hospital complexes and the surrounding medical communities to provide communications between doctors, the hospital, patients and pharmacies. Access to patient records, remote monitoring of patients and provision of "original" prescriptions to pharmacies, regardless of the location of the doctor or the patient, are just some of the activities enabled by Part 15 wireless data communications.

Education. At all levels, the ability of students, teachers and parents to communicate among each other and to access school and public on-line resources and the Internet will be a critical part of education in the information age. Metricom's Part 15 radio networks are now being evaluated at Stanford University for a variety of applications supporting students and faculty. A program will begin soon to provide a significant part of the communications infrastructure required to "rebuild" the Los Angeles city schools.

Manufacturing. Metricom Part 15 radio networks will soon be enabling a variety of applications that are vitally important to efficient operation of businesses in the manufacturing sector. Capability to communicate from all locations where business is conducted will make employees more effective and businesses more responsive to customer requirements. Remote company network access, e-mail, service dispatch, point-of-sale and a host of other applications will use Metricom's Part 15 network as their communications medium.

Personal communications. Metricom Part 15 radio networks will also provide a location independent communications medium for a wide variety of personal communications applications. Included among the applications enabled by the networks will be access to on-line services, electronic bulletin boards, personal finance services and electronic shopping malls.

No other communication medium available today has the potential to provide the breadth of services described above with the cost/value relationship that can be achieved by Part 15 radio networks. To limit the usefulness of these networks would be to seriously impact the public interest in a very wide variety of areas. The descriptions above are related only to Metricom Part 15 radio networks. In combination with all of the other Part 15 products that are being developed, Metricom is certain that the contribution that will be made by Part 15 operations will represent one of the most significant advances in the efficient use of spectrum and provision of useful equipment and services to the public that the United States has ever witnessed.

CERTIFICATE OF SERVICE

I, hereby certify that a copy of the foregoing Comments was served this 18th day of March, 1994, by U.S. Mail, first class, postage prepaid to:

John Woods, President
Western Multiplex Corporation
300 Harbor Blvd.
Belmont, CA 94002

Wendy A. Yascur

WENDY A. YASCUR